

### **REMARKS**

In the non-final office action mailed January 10, 2007, claims 1-14 and 50-70 were pending. Each of claims 1-10, 12-14, 50-52, 54-56, 58-68 and 70 stands rejected, while claims 11, 53, 57 and 69 have been objected to as being dependent upon a rejected base claim, but were indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In this response, claims 1, 7, 8, 9, 54, 61 and 66 have been amended. In view of the following remarks, reconsideration and allowance of the present application as amended and including claims 1-14 and 50-70, are hereby requested.

### **Specification**

The Office Action indicated that the "CROSS-REFERENCE TO RELATED APPLICATIONS" section of the written description of the subject application was objected to for lacking the most recent data bibliographic in regard to U.S. Application Serial No. 09/694,521. This section of the written description has been amended as indicated above to obviate this objection. Accordingly, removal of this objection is respectfully requested.

### **Claim Objections**

The objections to claims 1 and 7 have been addressed in the amendments above. Withdrawal of the objections to claims 1 and 7 is respectfully requested.

### **Claim Rejections**

Claims 1-14 and 50-70 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-97 of U.S. Patent No. 7,060,073 (hereafter "the '073 patent"). Additionally, claims 1-7, 61 and 63-65 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,904,261 to Dove et al. (hereafter "the Dove patent"); claims 1-7, 61 and 63-65 stand rejected under 35 U.S.C. §102(a) as being anticipated by European Patent No. 0,916,323 A1 to Schafer et al. (hereafter "the Schafer patent"); claims 1, 2, 4-10, 12, 13, 50-52, 61, 62, 65, 66 and 70 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,607,424 to Tropiano (hereafter "the

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Tropiano patent"); claims 1, 2, 4-10, 12-14, 50-52, 54-56, 58-62, 65-68 and 70 stand rejected under 35 U.S.C. §102(b) as being anticipated by International Patent Application Publication No. WO 97/15248 A1 to Cottle (hereafter "the Cottle reference"); and claims 1, 2, 4-7, 61 and 65 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,245,108 to Biscup (hereafter "the Biscup patent").

### **Double Patenting Rejection**

In response to the obviousness-type double patenting rejection asserted in the Office Action, Applicants submit herewith a terminal disclaimer in accordance with 37 C.F.R. §1.321(c). Accordingly, withdrawal of this ground of rejection of claims 1-14 and 50-70 is deemed proper.

### **35 U.S.C. §102 Rejections**

It is well established that "an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim." Richardson v. Suzuki Motor Co. Ltd., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The claims must not be treated as "mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning." Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al., 730 F.2d 1452, 1459, 221 USPQ 481, 486 (Fed. Cir. 1984). As a result, a reference that coincidentally lists features of a claim without describing the claimed arrangement, relationship, and organization of such features cannot anticipate.

As indicated above, claims 1-7, 61 and 63-65 stand rejected under 35 U.S.C. §102(b) as being anticipated by the Dove patent. Of these claims, claims 1 and 61 are independent claims which, as will be discussed below, include features and elements that the Dove patent does not teach, suggest or disclose. For example, claim 1 recites, amongst other features, that the implant comprises "a trailing end wall opposite said leading end wall having an insertion tool engaging portion". The Office Action indicates that the Dove patent discloses a leading end wall and a trailing end wall, and that these ends walls "may have an insertion tool-engaging portion (i.e., any "portion" of said end wall can be engaged by a tool)". While the Office Action does not

specifically indicate which features are leading and trailing end walls, it is assumed that it is referring to the ends 12, considering that these are the only features between which the anterior wall 15 and the posterior wall 17 extend. It is respectfully submitted that neither of the ends 12 of the implant illustrated in the Dove patent includes an insertion tool engaging portion. Additionally, an anticipation rejection based on the assertion in the Office Action that the ends may have an insertion tool-engaging portion is improper (emphasis added). Instead, as required by Richardson, “[e]very element of the claimed invention must be literally present....” Contrarily, as suggested by the permissive language in the Office Action, this feature is not disclosed in the Dove patent.

Furthermore, Applicants submit that the Dove patent is explicitly directed to providing an implant for use in an anterior surgical procedure, such that the ends 12 are positioned posteriorly in an implantation orientation. See, for example, column 1, lines 4-6 and column 1, lines 28-38. As such, one of ordinary skill in the art would not recognize either of the ends 12 as an insertion tool engaging portion since engaging a tool to ends 12 would be prohibitive of inserting the implant from an anterior approach as disclosed and taught in Dove. Furthermore, claim 1 recites “at least one strut extending between said posterior wall and said anterior wall”, a feature which also is not disclosed in Dove. Accordingly, claim 1 is submitted as patentable over the Dove patent for at least these reasons.

Additionally, each of claims 2-7 depends directly from claim 1 and is submitted as patentable over the Dove patent for at least the reasons supporting the patentability of claim 1. Furthermore, additional reasons support the patentability of these claims over the Dove patent. For example, claim 6 recites that the leading end includes an insertion tool engaging portion. As discussed above, the Dove patent does not disclose this feature in relation to either of the ends 12. The insertion tool engaging portion is defined as “an internally threaded hole” in claim 7. It is also clear that the Dove patent does not disclose this feature.

Independent claim 61 recites that the implant “has a center axis extending generally in the direction between said leading end wall and said trailing end wall, said posterior wall and said anterior wall being positioned on opposite sides of said center axis”. This feature is not disclosed by the Dove patent. Instead, due to the “horseshoe” shape of the implant, it is clear that the anterior wall 15 and the posterior wall 17 are positioned on the same side of a center axis

extending generally in the direction between the ends 12. Moreover, the positioning of any axis such that the anterior and posterior walls 15, 17 are positioned on opposite sides thereof would not be "a center axis". Instead, the axis would have to be positioned directly in between the walls 15, 17 at the anterior end of the implant. Accordingly, for at least these reasons, claim 61 is submitted as patentable over the Dove patent. Claims 63-65 depend directly from claim 61 and each is submitted as patentable over the Dove patent for the same reasons supporting the patentability of claim 61.

Each of claims 1-7, 61 and 63-65 also stands rejected under 35 U.S.C. §102(a) as being anticipated by the Schafer patent. As an initial matter, Applicants reserve the right to remove the Schafer patent with an affidavit under 37 C.F.R. §1.131 in this and any continuing applications. However, assuming only *arguendo* that the Schafer patent may be asserted with respect to the present application, it is believed that claims 1-7, 61 and 63-65 are patentable thereover as will be explained in the following comments.

Claim 1 has been amended and recites, among other features, "at least one strut extending between said posterior wall and said anterior wall". Support for this amendment to claim 1 may be found, for example, in any of Figures 51 and 52-55 and on page 26, line 26 to page 27, line 7 of the written description of the subject application. The Schafer patent discloses a posterior longitudinal wall portion 5 opposite an anterior longitudinal wall portion 4 (see column 3, lines 8-15 of corresponding U.S. Patent No. 6,143,032), but it does not disclose any strut extending between these wall portions (see for example Figures 1 and 3). Accordingly, claim 1 is submitted as patentable over the Schafer patent.

Claims 2-7 are submitted as patentable over the Schafer patent for at least the reasons supporting the patentability of claim 1, from which they each directly depend. However, further reasons support the patentability of these claims. For example, claim 2 recites that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall." As may be seen in Figure 5, the lateral wall portion 7 tapers between anterior and posterior wall portions 4 and 5, such that its shortest height, positioned where wall portion 7 intersects with wall portion 5, is the same as the height of posterior wall portion 5. Therefore, while the lateral walls 6 and 7 may be shorter than anterior wall portion 4, neither is disclosed as being shorter than posterior wall portion 5. Accordingly,

the Schafer patent does not disclose the features of claim 2. Additionally, the Schafer patent does not teach that the leading end of the implant 1 also includes a tool engaging portion as recited in claim 6. While the Office Action suggests that the leading end wall 7 "may have an insertion tool-engaging portion", Richardson requires a more exacting standard as indicated above. Therefore, it is also submitted that Schafer fails to teach, suggest or disclose the features of claim 6.

With respect to this ground of rejection as applied to claim 61, it, similar to claim 2, recites that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall". As indicated above with respect to claim 2, this feature is not taught by the Schafer patent. Therefore, Applicants respectfully request withdrawal of this rejection of claim 61. Furthermore, claims 63-65, which depend from claim 61, are submitted as patentable over the Schafer patent for at least the reasons supporting the patentability of claim 61.

The Tropiano patent has been asserted to anticipate claims 1, 2, 4-10, 12, 13, 50-52, 61, 62, 65, 66 and 70 under 35 U.S.C. §102(b). While discussing this ground of rejection, the Office Action, at page 7, indicated that "[t]he terms "anterior", "posterior", "upper", and "lower" are broadly interpreted since the claim language does not indicate points of reference (upper bearing member faces the upper vertebra; anterior wall faces the anterior side of the spinal column; etc.)." "[T]he words of a claim must be given their plain meaning unless the plain meaning is inconsistent with the specification." MPEP §2111.01 I (citing In re Zletz, 893 F.2d 319, 321, 13 U.S.P.Q.2d 1320, 1322 (Fed. Cir. 1989). Furthermore, "the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention". MPEP §2111.01 III (citing Phillips v. AWH Corp., 415 F.3d 1303, 1313, 75 U.S.P.Q.2d 1321, 1326 (Fed. Cir. 2005). It is submitted that the Office Action's interpretation of these claim terms is beyond the broadest reasonable meaning that those skilled in the art would consider. Specifically, one having skill in the art would recognize that "anterior", "posterior", "upper" and "lower" are used to describe portions of the implant relative to anatomical features of the spinal column. For example, a posterior wall faces posteriorly, while an anterior wall faces anteriorly. Moreover, the specification discloses, on page 26, lines 6-7, that "[i]mplant 1000 includes a concave posterior wall 1002 and an opposite convex anterior

wall 10004” while Figure 51 illustrates the implant 1000 relative to a vertebra V1 with the concave wall facing posteriorly and the convex wall facing anteriorly. Accordingly, Applicants submit that it is clear that the terms “anterior”, “posterior”, “upper” and “lower” are used to provide points of reference of the implant configuration relative to the patient anatomy when implanted in the patient.

The Office Action asserts that the Tropiano patent discloses a leading end wall 16, a trailing end wall 18, a posterior wall 22 and an anterior wall 20 (see pages 6-7). Each of the independent claims (1, 8, 61 and 66) rejected in view of the Tropiano patent has been amended to more clearly define the present invention and is directed to a spinal implant comprising, amongst various other features, a leading end wall defining an implantation direction of the spinal implant, a trailing end wall opposite said leading end wall, a posterior wall extending between said leading end wall and said trailing end wall and an anterior wall extending between said leading end wall and said trailing end wall. It is clear from the claim language that these features are not disclosed by the Tropiano patent. Instead, as those having skill in the art would recognize, the Tropiano patent discloses an implant wherein the anterior wall and the implantation leading end wall are the same and the posterior wall and the implantation trailing end are the same. In fact, Figure 4 clearly illustrates the cage 10 relative to the vertebra V wherein the front surface 16 is both an implantation leading end and an anterior wall and the rear surface 18 is both an implantation trailing end and a posterior wall. Additionally, it is clear that no other portion of the cage 10 is an anterior wall or a posterior wall. For example, the top 20 and the bottom 22 both respectively face superiorly and inferiorly while the side surfaces 12 and 14 respectively face laterally and medially.

Moreover, the Office Action provides an inconsistent interpretation of Tropiano in rejecting the claims. Specifically, on page 7, Figure 2A is cited as illustrating that the posterior wall has a height that is less than a height of the anterior wall. It is assumed that the Office Action intended to cite the side elevation view of Figure 2, rather than Figure 2A, as disclosing this arrangement. Figure 2 illustrates that the rear surface 18 (originally cited in the Office Action as a “trailing end” but now cited as a posterior wall) has a height less than the front surface 16 (originally cited in the Office Action as a “leading end” but now cited as an anterior wall). Therefore, the Office Action fails to consistently apply the disclosure in Tropiano in

rejecting the claims, and re-arranges the elements in Tropiano to reject certain claims under a different interpretation. Accordingly, the Tropiano patent fails to disclose the above indicated arrangement of features of claims 1, 8, 61 and 66 and each is respectfully submitted as patentable thereover.

In further regard to claim 1, each of claims 2, 4-7 and 50-52 depends therefrom or an intervening claim and is submitted as patentable for at least the reasons supporting the patentability of claim 1. Additional reasons support the patentability of these claims as well. For example, the Tropiano patent does not disclose a leading end wall which includes an insertion tool engaging portion as is recited in claim 6. Moreover, claims 50-52 are further patentable over the Tropiano patent for the reasons set forth immediately hereafter in regard to the patentability of claim 8 and the claims depending therefrom.

Claim 8 recites that "said upper bearing member and said lower bearing member each include a cantilevered portion extending beyond said anterior wall." The Office Action asserts that "portions of 16, 18 and struts 50 extend outward and beyond planar surface 20." However, "planar surface 20" is disclosed as a top (see column 3, line 32), not as an anterior wall. Additionally, the written description at column 3, lines 45-52, further clarifies that the top 20 is not positioned anteriorly, as it is structured to mate with adjacent vertebral surfaces. Moreover, as set forth above, the front surface 16 is the anterior wall of the implant 10. Likewise, it is clear that no portion of the top 20 and the bottom 22 extend beyond the front surface or anterior wall 16. Therefore, claim 8 is further submitted as patentable over the Tropiano patent.

Claims 9, 10, 12 and 13 depend from claim 8 or an intervening claim and are submitted as patentable over the Tropiano patent for at least the same reasons supporting the patentability of claim 8. Additional reasons also further support the patentability of these claims. For example, claims 9 and 10 are both directed to the anterior wall including first and second openings. It is clear that the anterior wall 16 of the cage 10 does not include any openings.

Claim 61 is also further patentable over the Tropiano patent. For example, it recites, amongst other features, that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall". As discussed above, the Tropiano patent does not distinguish between 1) the anterior wall and the leading end and 2) the posterior wall and the trailing end. Therefore, it is clear that it can not disclose the

above indicated features of claim 61. Additionally, even assuming only *arguendo* that the top 20 and bottom 22 were anterior and posterior walls, respectively, as cited in the Office Action, the Tropiano patent does not disclose that “the leading end 16” and “the trailing end 18” have a height that is less than the height of both the top 20 and bottom 22. Accordingly, for at least these reasons, claim 61 is further submitted as patentable over the Tropiano patent. Claims 62 and 65 depend directly from claim 61 and are submitted as patentable over the Tropiano patent for at least the same reasons supporting the patentability of claim 61.

Claim 66 is directed to an implant including several features which are not disclosed by the Tropiano patent. For example, it recites that “said anterior wall includes at least one strut positioned between openings on each side thereof.” It is clear that the front surface or anterior wall 16 does not include a strut or any openings. Claim 66 also recites that “said upper bearing member and said lower bearing member each include a cantilevered portion extending beyond said strut and said openings.” As indicated above with respect to claim 8, it is clear that neither of the top 20 and the bottom 22 includes a portion extending beyond the anterior wall 16. Similar to claim 61, claim 66 also recites that “said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall”. For the same reasons asserted above in regard to claim 61, it is respectfully submitted that the Tropiano patent does not disclose this feature. Accordingly, claim 66 is further submitted as patentable over the Tropiano patent for these reasons as well.

Claim 70 depends from claim 66 and is submitted as patentable over the Tropiano patent for at least the reasons supporting the patentability of claim 66. Additionally, claim 70 recites that “said posterior wall is concave between said leading and trailing end walls and said anterior wall is convex between said leading and trailing end walls.” It is clear that neither of the anterior and posterior walls 16, 18 is concave or convex. See, for example, Figure 3. Additionally, assuming only *arguendo*, that the top 20 and bottom 22 were anterior and posterior walls, respectively, as cited in the Office Action, it is clear that neither of them is concave.

As indicated above, claims 1, 2, 4-10, 12-14, 50-52, 54-56, 58-62, 65-68 and 70 were rejected under 35 U.S.C. §102(b) as being anticipated by the Cottle reference. Of these, claims 1, 8, 54, 61 and 66 are independent claims, with each being directed to an implant comprising, amongst various other features, an leading end wall defining an implantation direction of the



implant, a trailing end wall opposite said leading wall, a posterior wall extending between said leading end wall and said trailing end wall and an anterior wall extending between said leading end wall and said trailing end wall. The Office Action indicates that the Cottle reference discloses an implant including a leading end wall 13, a trailing end wall 14, a posterior wall 15 and an anterior wall 16. Contrarily however, Applicants submit that the Cottle reference does not teach, suggest or disclose that either of the lateral faces 13, 14 of the implant 1 define an implantation direction of the implant. With respect to the implant 1 illustrated in Figure 1, the Cottle reference discloses that "the front wall 16 of the cage 1 has two grooves 17 to receive an instrument, so that the cage 1 can be inserted into the intervertebral space", indicating that the posterior wall 15 defines the implantation direction of the implant and that the anterior wall 16 is the trailing end (see column 4, lines 12-15 of U.S. Patent No. 5,888,227 (hereafter "the '227 patent") which corresponds to the Cottle reference).

Additionally, the Cottle reference indicates with respect to the embodiments illustrated in Figures 4-8 that "[a]part from the modifications described below, these have the same features as the embodiments of FIGS. 1-3" (see column 4, lines 16-18 of the '227 patent). From that point forward, the Cottle reference discloses that the implant 1 includes grooves 27, 28 which can accept a suitable manipulation instrument, but it does not disclose anything further in regard to how the implant is inserted. Therefore, with respect to the embodiments illustrated in Figures 4-8, the Applicants respectfully submit that they too are inserted so that the anterior wall 16 is oriented anteriorly in the disc space. Accordingly, it is respectfully submitted that the Cottle reference does not disclose those features as arranged in claims 1, 8, 54, 61 and 66. Therefore, each of these claims is submitted as patentable over the Cottle reference for at least this reason.

In further regard to claim 1, it recites "at least one strut extending between said posterior wall and said anterior wall, wherein said posterior wall has a height that is less than the height of said anterior wall." Cottle does not disclose a strut between the posterior wall and the anterior wall. Cottle also does not disclose the posterior wall with a height less than the anterior wall. Rather, the posterior wall has a height greater than the anterior wall, as shown in Figs. 2 and 6. Withdrawal of this basis of the rejection of claim 1 is respectfully requested.

Each of claims 2, 4-7 and 50-52 depends from claim 1 and is submitted as patentable for at least the reasons supporting the patentability of claim 1. Additionally, claim 2, which recites

that "said trailing end wall and said leading end wall each have a height that is less than the height of both of said anterior wall and said posterior wall", is further submitted as patentable over the Cottle reference. Assuming only *arguendo* that the lateral walls 13, 14 were "leading end and trailing end walls", it is clear that neither has a height that is less than both anterior wall 16 and posterior wall 15. Instead, as clearly seen in Figure 6 for example, the height of the lateral walls 13, 14 at their shortest point, which is where they intersect with the posterior wall 15, is the same as the height of the posterior wall 15. Additionally, the Cottle reference does not disclose a tool engaging portion in the form of an internally threaded hole as is recited in claim 7. Moreover, for the reasons that follow in regard to the patentability of claim 8 and the claims depending therefrom, claims 50-52 are further submitted as patentable over the Cottle reference.

Claim 8 also recites that "said upper bearing member and said lower bearing member each include a cantilevered portion extending beyond said anterior wall" (emphasis added). The Office Action asserts that as illustrated in Figures 4 and 6, the upper bearing member and the lower bearing member of the implant 1 each include a cantilevered portion extending beyond the anterior wall. Cottle does not disclose this feature. Instead, the Cottle reference discloses that the anterior wall 16 includes grooves 27 formed therein, such that, as clearly indicated by reference numeral 16 in Figure 6, the anterior wall 16 extends beyond the groove 27. As also seen in Figure 6, it is clear that no portion of the cover and base faces 11, 12 extend beyond the anterior wall 16. Therefore, claim 8 is further submitted as patentable over the Cottle reference.

Claims 9, 10 and 12-14 depend from claim 8 or an intervening claim and are submitted as patentable over the Cottle reference for at least the same reasons supporting the patentability of claim 8. Additional reasons also further support the patentability of these claims. For example, claim 9 recites that the anterior wall includes first and second openings. The anterior wall 16 includes aperture 25, but does not include any additional openings. The implant of claim 10 includes several features that are distinguishable from the Cottle reference. For example, in relation to the openings of claim 9, claim 10 recites that "said first anterior lateral opening is defined between a first vertical strut, said leading end wall and said upper and lower bearing members and said second anterior lateral opening is defined between a second vertical strut, said trailing end wall and said upper and lower bearing members." It is clear that the Cottle patent does not disclose these features.

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With further respect to claim 54, it is also further patentable over the Cottle reference. For example, it recites that "said anterior wall includes at least one strut positioned between openings on each side thereof, and said upper bearing member and said lower bearing member each include a cantilevered portion extending beyond said strut and said openings." As an initial matter, for at least the same reasons set forth above in regard to claim 8, it is submitted that the Cottle reference does not disclose that the cover and base faces 11, 12 include a cantilevered portion extending beyond a strut of the anterior wall. The Office Action asserts that the anterior wall 16 includes lateral openings 27 "and lateral struts (each located between 27 and 28)." It is respectfully submitted that the grooves 27, 28 are not openings. Specifically for example, it is clear that the groove 27 does not open to anything. Therefore, the portion situated between the grooves 27, 28 can not be disposed between openings on each side thereof. Moreover, assuming even only *arguendo* that the grooves 27, 28 were openings and that the portion therebetween was a strut, it is clear that the cover and base faces 11, 12 do not extend beyond the portions positioned between the grooves 27, 28. Accordingly, claim 54 is further submitted as patentable over the Cottle reference and withdrawal of this rejection thereof is respectfully requested.

Additionally, claims 55, 56 and 58-60 depend from claim 54 or an intervening claim and are submitted as patentable for at least the reasons supporting the patentability of claim 54. Further reasons support the patentability of the claims depending from claim 54. For example, claims 55 and 56 respectively recite subject matter similar to that of claims 9 and 10, which as discussed above, is not disclosed by the Cottle reference.

Claim 61 is also further patentable over the Cottle reference. For example, it recites, among other features, that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall". As discussed above, even assuming only *arguendo* that the lateral faces 13, 14 were leading and trailing ends, respectively, as recited in the Office Action, the Cottle reference does not disclose that the lateral faces 13, 14 have a height that is less than the height of both the anterior end 16 and the posterior end 15. Instead, as discussed above in regard to claim 2, the height of the lateral walls 13, 14 at their shortest point, which is where they intersect with the posterior wall 15, is the same as, not less than, the height of the posterior wall 15. Accordingly, for at least these reasons claim 61 is further submitted as patentable over the Cottle reference. Claims 62 and 65 depend directly from

claim 61 and are submitted as patentable over the Cottle reference for at least the same reasons supporting the patentability of claim 61.

Claim 66 is directed to an implant including several features which are not disclosed by the Cottle reference. For example, it recites that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall". For the same reasons asserted above in regard to claim 61, it is respectfully submitted that the Cottle reference does not disclose this feature. Claim 66 also recites that "said upper bearing member and said lower bearing member each include a cantilevered portion extending beyond said strut and said openings." For at least the reasons indicated above in regard to claim 54, the Cottle reference does not disclose this feature. Accordingly, claim 66 is further submitted as patentable over the Cottle reference for these reasons as well. Claims 67-68 and 70 depend from claim 66 or an intervening claim and are submitted as patentable over the Cottle reference for at least the reasons supporting the patentability of claim 66. Additionally, claims 67 and 68 are directed to subject matter similar to that of claims 9 and 10, which as discussed above, is not disclosed by the Cottle reference. Moreover, claim 70 recites that "said posterior wall is concave between said leading and trailing end walls and said anterior wall is convex between said leading and trailing end walls." It is clear that neither of the posterior and anterior walls is concave (see for example Figures 5 and 8).

The Biscup patent has been cited as anticipating claims 1, 2, 4-7, 61 and 65 under 35 U.S.C. §102(e). As an initial matter, Applicants reserve the right to remove the Biscup patent with an affidavit under 37 C.F.R. §1.131 in this and any continuing applications. However, assuming only *arguendo* that the Biscup patent may be asserted with respect to the present application, it is believed that claims 1, 2, 4-7, 61 and 65 are patentable thereover as will be explained in the following comments.

The Office Action indicates that the Biscup patent discloses an implant 10 including a leading end wall 40, a trailing end wall 50, a posterior wall 70 and an anterior wall 60. The Applicants respectfully submit that the first side wall 60 and the back side wall 70, as disclosed in the Biscup patent, are not anterior and posterior walls. Instead, as those having skill in the art would recognize, the front end wall 40 is a posterior wall while the back end wall 50 is an anterior wall while walls 60 and 70 are lateral and medial walls, respectively. The curved lateral

wall 60 is situated to closely match the anatomical shape of the intervertebral disc. See col. 8, lines 53-57. Furthermore, this concept is clearly supported by the illustrations of Figures 5 and 6, where the implants 10 are implanted between adjacent vertebral bodies with the shortened front end wall 40 facing posteriorly and the back end wall facing anteriorly.

However, even assuming only *arguendo* that the designation of walls 40, 50, 60 and 70 in the Office Action is proper, independent claims 1 and 61 are still patentable over the Biscup patent. With respect to claim 1, it has been amended and is now directed to an implant including, amongst other features, at least one strut extending between said posterior wall and said anterior wall. As illustrated in Figure 1 for example, it is clear that the implant 10 does not include a strut extending between "anterior wall" 60 and "posterior wall" 70, as recited in the Office Action. Additionally, when the walls 40 and 50 are properly designated as posterior and anterior as disclosed in Biscup, it is still clear that no strut extends between walls 40 and 50. Accordingly, claim 1 is further submitted as patentable over the Biscup patent and withdrawal of this ground of rejection is respectfully requested.

Claims 2 and 4-7 depend directly from claim 1 and are submitted as patentable over the Biscup patent for at least the reasons supporting the patentability of claim 1. However, additional reasons support the patentability of these claims. For example, claim 2 recites that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall." Assuming, as indicated in the Office Action, that walls 40 and 50 are leading and trailing end walls, it is clear that both of them do not include a height that is less than the height of both the cited "posterior wall" 70 and "anterior wall" 60. Instead, as clearly seen in Figure 4A, front end wall 40 has its shortest height where it intersects with first side wall 60. At this point, both the front end wall 40 and the first side wall 60 have the same height, such that wall 40 can not have a height shorter than the height of both walls 60 and 70. In addition, claim 4 recites that "said leading end wall and said trailing end wall have the same height." However, as clearly illustrated in Figure 3, the cited "leading end wall" 40 is shorter than the cited "trailing end wall" 50. Withdrawal of this basis of the rejection of claims 1 and 4-7 depending from claim 1 is respectfully requested.

Claim 61 recites that "said trailing end wall and said leading end wall each have a height that is less than the height of both said anterior wall and said posterior wall". For at least the

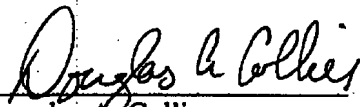
same reasons submitted above in regard to the patentability of claim 2, claim 61 is also submitted as patentable over the Biscup patent. Claim 65 depends from claim 61 and is submitted as patentable for at least the reasons supporting the patentability of claim 61. Additionally, claim 65 is directed to subject matter similar to that of claim 4 and for the reasons submitted above in regard to claim 4, it too is further submitted as patentable over the Biscup patent. Withdrawal of this basis of the rejection of claims 61 and 65 is respectfully requested.

### Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance with pending claims 1-14 and 50-70. Reconsideration of the present application is respectfully requested. Timely action towards a Notice of Allowance is hereby solicited. The Examiner is encouraged to contact the undersigned by telephone to resolve any outstanding matters concerning the present application.

Respectfully submitted:

By:

  
Douglas A. Collier  
Reg. No. 43,556  
Krieg DeVault LLP  
2800 One Indiana Square  
Indianapolis, Indiana 46204-2079  
Phone: (317) 238-6333

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